

Docket No. 053649-0003**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant: Nowak et al.

Examiner: M. Jackson

Serial No.: 09/178,329

Group Art Unit: 1773

Filed: August 23, 1998

For: COMPOSITE WRAP MATERIAL

Assistant Commissioner for Patents  
Washington D.C. 20231**DECLARATION OF THOMAS BEZIGIAN**

I, Thomas Bezigian declare as follows:

1. In 1977, I received a Bachelor of Science in Plastics Engineering from the University of Lowell and in 1987 I received a Master of Business Administration, Management from Bryant College.
2. From 1977-1980, I worked for Cryovac a division of W.R. Grace as a process development engineer responsible for developing and improving barrier film processing and product performance on a unique process. I also worked on coextrusion technology, screw design, polymer irradiation, heat sealing, web handling, extruder troubleshooting and polymer characterization.
3. From 1980-81, I worked for the Mobil Chemical Plastics Division. as a Product Development Engineer on oriented polypropylene (OPP) products. I designed pilot equipment and began the company's film extrusion coating development program. During this time I worked on raw material selection, polymer processing, web handling, corona treating, printing and aqueous coating of OPP films.
4. From 1981-87, I worked for Fortifiber Corporation as a product development engineer and R & D Director. I worked on extrusion coating, wax, hot melt, bitumen and aqueous coating and laminating for food, industrial, medical and

agricultural chemical packaging, industrial process and release papers, and building papers. I developed unique polymer blends for fiber drum applications and vinyl flooring release paper. I also developed extrusion laminated, fiberglass reinforced RF shielding for the US DOD.

5. From 1987-90 I worked for James River Corporation as the technical director to the Food Wrap Business responsible for product development, quality assurance & testing and technical support. Processes included papermaking, waxing, parchmentizing, printing, extrusion coating, cast sheet, thermoforming and miscellaneous converting. Products included wax papers, twist wraps, flexible packaging, rigid packaging, and release papers.
6. From 1992-93, I worked for Schoeller Technical Papers as a technical director for a photographic and specialty paper manufacturer. I was responsible for product development, quality assurance, and technical services in the papermaking and extrusion coating areas.
7. From 1991 to present, I have been working as president for PLC Technologies. The company was involved in plastic film and sheet manufacturing, extrusion coating, packaging and converting industries. Specialties included polymer processing.
8. From 1998-2000, I worked as the president of Great Lakes Technologies. The company was involved in producing extrusion coated and laminated films and papers for the packaging industry. In 2000 this company was sold to Scapa Tapes NA after which I was retained as business development manager.
9. During almost my entire career, I have encountered ream wrap products.
10. I have reviewed the present invention, US patent application serial no. 09/178,329. I have also reviewed the cited prior art: US Patent 3,616,191, Fuerholzer, US Patent 6,150,035, DeFife and US Patent 4,196,247, Weisman.
11. Both Fuerholzer and Weisman both teach applying a liquid polymer to the adhesive. Further Fuerholzer teaches applying a primer to the paper, drying and then adding a liquid hot polymer. Weisman teaches adding a liquid adhesive and then a hot liquid polymer so that the polymer is so hot that it melts through the adhesive to create a bond.

12. It is my opinion that it would not occur to a person of ordinary skill to replace a ream-wrap paper having a coating with a ream wrap paper having a solid film adhered thereto. It is known among those of ordinary skill that coatings applied with a Meyer rod or equivalents do not exhibit the same strength as solid films. For example, solid films have biaxial strength properties so that the strength exhibited in the machine direction is different than that exhibited in the cross-machine direction. Conversely, coatings are isotropic so that their strength properties are independent of direction.
13. An example of one film used by the applicant is AET FILMS, AQS Transparent OPP Film that is coextruded, biaxially oriented polypropylene film. The film has a greater tensile strength in the cross-machine direction than in the machine direction. Conversely, paper has a greater tensile strength in the machine direction than the cross-machine direction. By laminating these two materials together, the tensile strength in each direction is enhanced. This positively affects the burst strength of the material.
14. A person of ordinary skill in the art would understand the term fold characteristics to mean that when one puts a crease into a material, it stays there. Paper has a fold characteristic. Film does not have a fold characteristic. The product of the present invention has fold characteristics.
15. Burst strength is determined by standardized tests such as that defined by the American Society for Testing and Materials test, ASTM D 774, entitled "Test Method for Bursting Strength of Paper." This test can be used to determine the burst strength of polymer materials such as polyethylene terephthalate film and sheeting (ASTM D5047-95).
16. A person of ordinary skill in the art of packaging would know that a high burst strength means that by testing an appropriate sample of available ream wrap products having the same basis weight according to a standardized test such as ASTM D 774, the wrap made in accordance with the claimed invention would yield a high burst strength. The composite of the present invention would have a higher burst strength than the products of the prior art cited by the Examiner.

17. The water vapor transfer rate (WVTR) as determined by a standardized test method such as TAPPI T464 om-90 for a product made in accordance with the claimed invention is less than 0.5 g/100 in<sup>2</sup>/24 hr at 100 degrees Fahrenheit, 90% relative humidity. The prior art products cited by the Examiner in my opinion would not provide the moisture vapor barrier properties of the composite of the present invention.
18. Enclosed are samples of the product of the present invention and the products of the prior art.
19. Sample 1 is a Paper/Wax sample as described by Weisman. This is a sample of a paper that has a wax coating applied in heated liquid form and then cooled to solidify on the paper. The wax becomes an integral part of the paper which can be seen on the glossy side.
20. Sample 2 is an example of the Fuerholzer patent. This is a polyolefin coating on a paper with a primer in between. Sample 2 is a sheet of paper with a poly coating applied at high temperature (approximately 600 F) as a liquid and then cooled to solidify on the paper. A coating to promote adhesion of the poly to the paper is applied to the paper before the poly is applied. The poly becomes an integral part of the paper that is observable on the glossy side, but the coating to promote adhesion is not observable as it is buried between the poly and the paper.
21. Sample 3 is a sample that is close to the product taught by DeFife. Sample 3 is a poly/paper/poly sheet which would be layers 16, 12, 14 or 32, 31, 33. The final product would be similar to the stickers enclosed, where the sticker would be the poly/paper/poly (32, 31, 33) with adhesive (34) on the back so the sticker sticks to what you put on it. The sticker is on a liner (36) that has silicone (35) on it to keep the adhesive from sticking to it.
22. Sample 4 is the product of the present invention. This is paper/poly/film with the poly being applied as a liquid (600 F) but it is used to glue the paper and the solid film together when it is solidified. Sample 4 shows the film separated from the paper (which has the poly stuck to the paper in the areas where the film is picked up) artificially to demonstrate the product. In normal production and use the film/poly/paper become one sheet or product and cannot come apart. The product

of the present invention uses a solid film sheet in the production and not liquefied layers of poly.

23. I hereby declare that all statements made herein of my own knowledge are true, and that all statements are made on information and belief believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the patent application to which it relates or any patent issued thereon.

Dated Nov. 12, 2001

Thomas Bezigian  
Thomas Bezigian